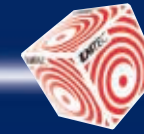




Professional Media



The Power of Experience

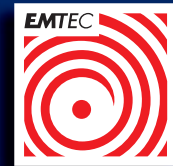


**A new brand with
a long tradition.**

Starting in 2002, all BASF
branded Audio, Video and
Data Media products will bear
the name EMTEC ("European
Multimedia Technologies").
Only the name is being
changed. Our outstanding
organization, excellent service
and superb product quality
will remain just the same for
our exciting new brand.
Believe in us, we will make it
happen.



THE NEW NAME FOR MULTIMEDIA



EMTEC

2002



EMTEC
BASF

2000



BASF

by **EMTEC**

1998

EMTEC Magnetics GmbH
European Multimedia Technologies

Kaiser-Wilhelm-Strasse 52
67059 Ludwigshafen, Germany
contact@emtec-group.com



www.emtec-group.com



EMTEC

P 2000 GB08/100



PRODUCT CATALOGUE



EMTEC

EMTEC Professional Media – The Power of Experience

EMTEC Magnetics, formerly BASF Magnetics, can look back on 65 years of experience in the technology of magnetic tapes. The pioneer at that time developed into one of the world's largest suppliers of storage media. In addition to analogue and digital magnetic tape, our increasing involvement in optical digital storage media is a natural response to current market developments. Our aim is to provide our customers with all possible current multi-media applications.

Modern manufacturing plant of appropriate capacity ensures uncompromising product quality and uninterrupted supply to our customers. Intensive research and development activity and highly qualified specialists underpin the secure future of our product range. EMTEC Magnetics is a customer orientated company, which gives priority to quality, competitive prices and first class service.



Nowadays companies have to react faster than ever before to the increasing demands of the computer world. EMTEC Magnetics offers products to cover all areas of work with storage media. Customer structure and market trends are kept under constant observation so that the company can stay on top and maintain its high standards with the many software and hardware systems available today. Modern production methods provide the foundation for this quality philosophy. EMTEC Magnetics uses state-of-the-art production facilities and inspection and control systems in order to satisfy the very highest demands.

DATA MEDIA



By keeping a critical eye on video quality and listening to the wishes of professional users all over the world, EMTEC Magnetics has developed tapes and cassettes which play a crucial part in achieving perfect results. The video studio range, which covers every stage of the process right through to post-production, has been perfectly adapted to meet the needs of the specialists. And the "infrastructure" also has to be right: one of the great strengths of EMTEC Magnetics is its team of advisors in the Applications Engineering Department, who are competent, customer-oriented and highly flexible.

VIDEO STUDIO



In the professional audio studio market the EMTEC Magnetics slogan is: "We feel at home in the studio". The company's EMTEC brand is the only one in the world to offer a complete range of products. EMTEC Magnetics' quality philosophy in the field of professional studio products is based on decades of experience, technical know-how, reliability, service and personal customer care.

AUDIO STUDIO

Magnetic Tape Cartridges 3480/3490E



Exceptional long term stability through "ultra stabilized" tape formulation

The development of a special tape formulation has enabled us to manufacture MTCs with a long term stability never previously attained.

The use of highly pure raw materials has resulted in new standards of climatic stability and length of life for magnetic tapes. Key elements are an ultrastabilized magnetic layer and the moisture protected BASF chromium dioxide pigment with extremely low retentivity losses.

**MTC XL 1.0 GB
= 200 MB more
storage capacity**



Highest Reliability

The 3480/3490 MTC generation provides the highest level of freedom from errors and reliability in continuous operation as well as in long term archiving. This is proven by the Accelerated Drive Test, in which the MTC undergoes a simulation of the most demanding conditions in practice. 10 cartridges are stored for a period of 24 weeks during which they are kept for 6 periods of 3 weeks at 50°C/90% humidity followed by one week at similar conditions during continuous running on original drives.

Optimal Performance

The continuous 100% testing on original 3480/3490 E drives and compatible drives guarantees performance of at least 25 GB/TWE for the EXTRA MTC and 50 GB/TWE for the MAXIMA MTC (IBM Industry Standard: 6 GB/TWE)

Magnetic Tape Cartridges

Description	Capacity without compression	max. capacity with compression	ECC errors/MTC	Tape length (m/ft)
EXTRA 210	210 MB	630 MB	50 max.	171 / 561
EXTRA 250	250 MB	750 MB	50 max.	200 / 656
EXTRA 300	300 MB	900 MB	50 max.	241 / 791
EXTRA DL	800 MB	2.4 GB	100 max.	335 / 1,100
EXTRA DLX	850 MB	2.55 GB	100 max.	355 / 1,165
EXTRA XL	1.0 GB	3.0 GB	100 max.	417 / 1,368
MAXIMA 210	210 MB	630 MB	15 max.	171 / 561
MAXIMA 250	250 MB	750 MB	15 max.	200 / 656
MAXIMA DL	800 MB	2.4 GB	45 max.	335 / 791

Magnetic Tape Cartridges 3590



EMTEC MTC IBM High Performance 3590 10/20 GB for IBM Magstar 3590 B/3590 E drives

Performance

9 MB/sec. in 3590 B • 14 MB/sec. in 3590E

Capacity

Without data compression: 10 GB in 3590B
20 GB in 3590E

With data compression (3:1): 30 GB in 3590B
60 GB in 3590E

Recording process

Longitudinal serpentine recording with a total of 128/256 data tracks and prerecorded servo tracks.

Label recognition / 7. Digit

"J" (10/20 GB)

A new generation of drives in the 3590 technology permits further huge increases in recording density. The new write/read head works with 256 data tracks (previously 128) and thereby provides 100% more capacity. The improved transfer rate permits 50% faster writing and reading. With 256 data tracks each cartridge can store up to 60 GB of compressed data.

The EMTEC MTC IBM High Performance 3590 was developed in close cooperation with IBM. Each MTC 3590 which we manufacture under licence from IBM bears the dual logo EMTEC/IBM. What could be more reassuring than the combination of two names which are renowned for their leading role in data recording, and which have advanced MTC technology time and time again.

More security – more productivity

However an innovation may be from the technical viewpoint what counts for professionals is whether a nominal increase in performance translates into a real improvement in productivity. And here's where EMTEC MTCs show their class in practical ways:

- The storage costs per MB fall by more than 95%.
- The huge reduction of room required means lower space, operational and maintenance costs.
- Higher transfer rates result in large time saving and additional cost savings.
- The provision of additional autonomous system units is unnecessary. The new MTCs can be integrated into existing robot and archiving systems and operated in parallel with previous MTC types.

MTC IBM High Performance 3590

Drive	3590B	3590E
Capacity		
- uncompressed	10 GB	20 GB
- compressed	30 GB	60 GB
Transfer Rate	9 MB/sec	14 MB/sec

MTC RedLead™ SD-3



EMTEC MTC RedLead™ SD-3
with 10, 25 and 50 GB
for StorageTek Redwood™ SD-3

Performance
11.25 MB/s

Capacity
10, 25, 50 GB **without** data compression
30, 75, 150 GB **with** data compression

Recording process
Helical-Scan (D-3).

Label recognition / 7. Digit
„A“ (10 GB)
„B“ (25 GB)
„C“ (50 GB)

MTC Cleaning Cartridges



Cleaning Cartridge 3480/3490 E

The Cleaning Cartridge is
suitable for 500 charging
and discharging cycles

- Tape thickness 9.9 µm (+0.8/-0.0)
- Tape width 12.7 mm (+0.38/-0.0)
- Tape length 7.2 m (+0.1/-0.0)



Cleaning Cartridge StarTrac™ 3590

The StarTrac™ Cleaning Cart-
ridge 3590 is suitable for 150
charging and discharging cycles

- Tape thickness 17.0 µm (+/-1.0)
- Tape width 12.65 mm (+/-0.025)
- Tape length 320 m (+/-5.0)



Cleaning Cartridge RedLead™ SD-3

The RedLead™ Cleaning Cart-
ridge SD-3 is suitable for 150
charging and discharging cycles

- Tape thickness 13.5 µm (+/-1.0)
- Tape width 12.65 mm (+/-0.025)
- Tape length 93 m (+/-5.0)

**All MTC cleaning cartridges
can also be supplied with
labels.**



Magnetic Tape Cartridges Accessories

In addition to standard cartridges, there are also MTCs with accessories available, corresponding to the requirements of your special applications or subsystem architecture.

Labels

The MTCs are supplied with serial number labels in order easily to identify the data content of each cartridge.

Label types

- | | | | |
|---|----------------------------------|---------------------------------------|---------------------|
| 1 TriOptic-Labels for IBM and STK robots | 2 GRAU label (Barcode 39) | 3 Comparex label (Barcode 128) | 4 TAB- label |
|---|----------------------------------|---------------------------------------|---------------------|



Initialising

To be able to introduce an MTC in a drive, the cartridge must be formatted – the MTC is initialised.

MTC Standard Initialising

Header Format: **IBM Standard**

MTC Special Initialising

Header Format: **IBM Zero • IBM ASCII
Siemens • Unisys ASCII • DEC ASCII**
Further special formats on request!

Coloured MTCs and customer logo

In addition there are 3480/3490E MTCs according to customer specification in red, yellow, blue and green and/or printed with the company logo

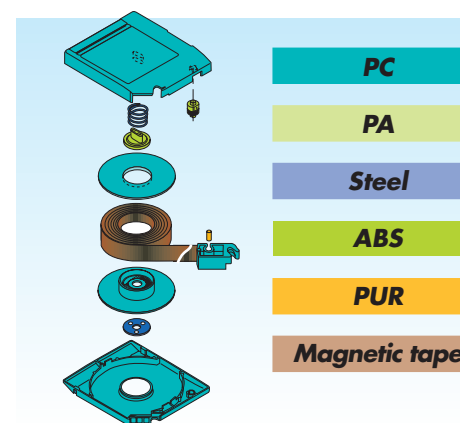


MTC Recycling – environmental responsibility from the start

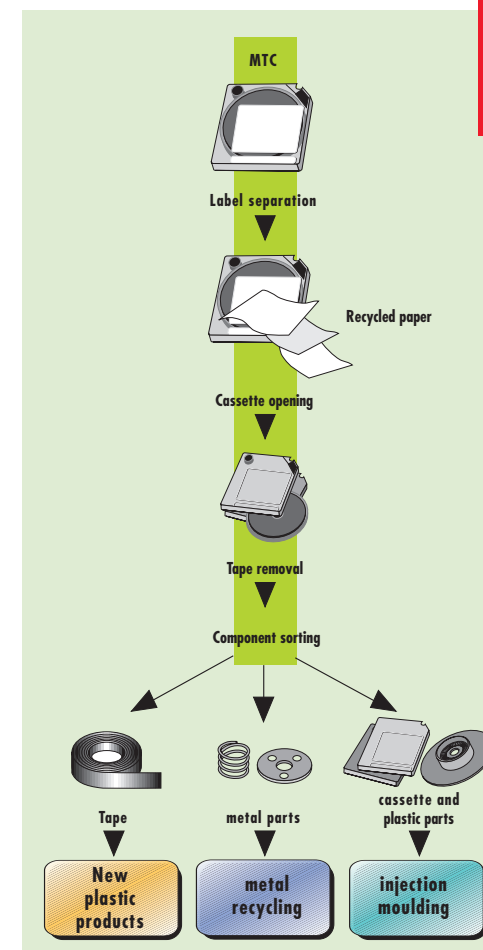
For us the idea of recycling of materials begins not just with the final product but already in the use of environmentally friendly materials and their controlled use during manufacture. In this way we are able to achieve complete separation of materials during later recovering and recycling.

The closed material cycle

The MTC is opened and separated into its component parts in accordance with the regulations for data protection (Federal Statute and DIN33858). With 11 components of just 6 different materials it is easy to separate materials cleanly.



Our ambitious target was 100% recycling of our MTCs. We achieved it: Every single MTC component is fully recycled, which means that MTC components are neither burnt nor dumped.



LTO Ultrium Tape



EMTEC Ultrium tapes are specially designed for storage-intensive backup and archiving in network servers and automated tape libraries. With compressed storage capacity of 200 GB in the first generation with a 1/2" metal pigment tape the Ultrium Tape sets new standards. With 20 MB to 40 MB for compressed data the Ultrium tape technology provides extremely high data transfer rates. The metal pigment tape (MP) on a PEN film ensures 1,000,000 passes and 20,000 charge/discharge cycles. Your data security is guaranteed on Ultrium Tape for at least 30 years.

Storage Capacities Enormous Transfer Rates

With storage capacities in the first generation from 10 GB to 200 GB, new dimensions in storage capacity on magnetic tape were achieved. The simultaneous provision of exceptional transfer rates of 10 MB to 40 MB easily meets the demanding transfer rates required today. Simultaneously 8 tracks are linear serpentine recorded and read on 384 tracks in four 96 track tapes.

Future Ultrium Tape Generations

The 'road map' for Ultrium is also unique. Even now it is known what the future generation of Ultrium will look like, guaranteeing security of investment for years to come.

	Generation One	Generation Two	Generation Three	Generation Four
Capacity	100 GB	200 GB	400 GB	800 GB
	Uncompressed	200 GB	400 GB	1.6 TB
Transfer Rate	10-20 MB/s	20-40 MB/s	40-80 MB/s	80-160 MB/s
	Uncompressed	20-40 MB/s	40-80 MB/s	160-320 MB/s
Media	Metal Particle	Metal Particle	Metal Particle	Thin Film



Cleaning Tape

A basic prerequisite for long term trouble-free functioning of a drive, and therefore of your data security, is the regular cleaning of the write/read head. With the Ultrium Cleaning Tape the write/read head can be effectively cleaned.

LTO Ultrium Tape

Description	Capacity without compression	Max. Capacity with compression	Tape length (m/ft)
10 GB	10 GB	20 GB	87 / 285
30 GB	30 GB	60 GB	203 / 666
50 GB	50 GB	100 GB	319 / 1046
100 GB	100 GB	200 GB	609 / 1998

DLTapes™



Cartridges in 1/2" format have established themselves very quickly as an ideal back-up solution in the midrange area. They provide exceptional performance on all criteria of importance to cartridge users: high storage capacities, fast data transfer and long term data security.

Modern back-up in the midrange area has a name: Digital Linear Tape

DLTapes™ are the solution for numerous working environments: Servers with growing storage volumes, data intensive workstations and expanding data archives. Ideal for multimedia, image editing, digital video as well as Internet and database applications.

DLTapes™ stand out through top performance on all important criteria. They combine high storage capacities up to 80 GB with huge data transfer rates of up to 12 MB/sec.

DLTapes™ III, III XT and IV set new standards in every area: Up to 80 GB storage capacity, data transfer rates in the megabyte area, a lifespan of up to 1 million write/read cycles and more. Behind this peak performance is state-of-the-art technology in every DLTape™.

And runs, and runs, and runs... long lasting and reliable - DLTapes™

- The DLTapes™ achieve up to 1,000,000 passes under difficult temperature and humidity conditions thanks to the ceramic surfaced metal pigments of the MP tape.
- DLTapes™ can archive data securely for 20 to 40 years.
- The expected life of a write/read head is at least 15,000 hours due to the ultra fine coating process of the DLTapes™.

DLTapes™							
Description	DLTape™ III			DLTape™ III XT	DLTape™ IV		
Magnetic Tape Coating Type	MP 1 1540 Oe				MP 2 (ATOMM) 1850 Oe		
Native Capacity [Compressed]	2.6 GB	6 GB	10 GB [20 GB]	15 GB [30 GB]	20 GB [40 GB]	35 GB [70 GB]	40 GB [80 GB]
Transfer Rate [Compressed]	0.8 MB/s	1.25 MB/s	1.25 MB/s [2.5 MB/s]	1.25 MB/s [2.5 MB/s]	1.5 MB/s [3 MB/s]	5 MB/s [10 MB/s]	6 MB/s [12 MB/s]
Drive Name							
• EC	TK 85	TK 86	TK 87	-	TK 88	-	-
• Quantum	DLT 260	DLT 600	DLT 2000	DLT 2000 XT DLT 30e	DLT 4000 DLT 40e	DLT 7000 DLT 70e	DLT 8000 DLT 80e
• HP	-	-	-	-	-	DLT 7000	DLT 8000
• Tandberg	-	-	-	-	-	DLT 7000	DLT 8000
• Overland	-	DLT 600	DLT 2000	-	DLT 4000	DLT 7000	DLT 8000

Security is the highest priority with DLTapes™. Minimal error rates and unsurpassed long term stability ensure that you can rely on DLTapes at any time.

Strict quality controls for maximum security. The outstanding quality of Digital Linear Tapes is assured by numerous internal and external control mechanisms which subject them to extreme conditions. Apart from the quality control integrated into each step of the manufacturing process, every production batch is checked against rigorous industry standards

ANSI X3B5, ECMA and ISO. To assure long term stability, many cartridges are played in an archiving test during which they are archived and annually tested.

Due to the interaction of advanced technology in storage pigments, carrier film, binding compounds and the tape surface, the DLTapes™ can be used in recording with shorter wavelengths, thereby remaining read-compatible with future DLTape™ generations,

Thus you can secure today the future of your back-up systems



DLT Cleaning Tape

Regular cleaning of the write/read head is a basic prerequisite for long term problem-free drive function and data security. With the DLT™ Cleaning Cartridge the write/read head can be effectively cleaned a total of 20 times.

4/8mm Data Cartridges



With storage capacities of up to 20 GB, the 4/8mm Data Cartridges are the first choice when you want back-ups with large data quantities but nevertheless at a favourable cost.

Modern technology for minimal error rate

The special formulation of the metal pigment tape and the extremely smooth recording layer result in particularly low error rates and also minimize head wear.

High Security through clever extras

Well thought through details give you the extra edge in security that pays off: The back coating of the tape ensures stable tape winding, even at high winding speeds, and the anti-static shell of special ABS results in increased data security in continuous use. The optimized structure of the magnetic coating reduces material fatigue and its abrasion resistance lowers the dirt build-up on the magnetic head. In order to prevent static charges and ensure optimal winding characteristics the magnetic tape has a special back coating with low electrical resistance and a defined

surface roughness. The 4/8mm Data Cartridges use the helican scan recording technology, which permits maximal capacities, high data transfer rates and optimal security of the stored data.

Maximum Flexibility

Check out the DDS/DDS 2 certification. It guarantees the compatibility to various drives. 4/8mm Data Cartridges with DDS/DDS 2 seal and MRS code are fully compatible with all data storage drives and in addition they deliver exceptional sound quality with audio-DAT drives.

Cleaning Cartridges for 4/8mm drives



QIC Data Cartridges



Reliability will continue to be the key characteristic required in modern data cartridges. Travan cartridges can do more.

Data cartridges have up until now been popular mainly as a reliable back-up solution. The new Travan systems can do more than that. With high access speeds as well as high capacities, they give you new possibilities to free up valuable hard disk space. And with your Travan archive rapid access is

nevertheless guaranteed to your archive data!

The right type for your storage needs

A diversity of system configurations and variable data volumes – the demands on data cartridges are quite varied. But Travan Cartridges cover every need. Whether it is the TR-1 with 400 MB, the TR-3 with 1.6 GB or the TR-4 with 4 GB, you select only according to storage requirement.

4/8 mm Data Cartridges

Description	Capacity (formatted)	Tape length (meter)	Record density (bpi)
4D - 60m	1.3 GB	60	61,000
4D - 90m	2 GB	90	61,000
4D - 120m	4 GB	124	61,000
4D - 125m	12 GB	125	122,000
4D - 150m	20 GB	150	122,000
8D - 112m	2.3/5 GB	112	43,200
8D - 160m	7 GB	160	43,200

TRAVAN Cartridges

Description	Capacity Uncompressed/Compressed	Tracks (max.)	Tape Length (feet)	Tape Coercivity	Backward compatibility
TR 1 QIC 80	400 MB/ 800 MB	36	750	550 Oe	QIC-80 (read/write) QIC-4 (read only)
TR 3 QIC 3020	1.6 GB/ 3.2 GB	50	750	900 Oe	QIC-3020 (read/write) QIC-3010 (read only)
TR 4 QIC 3095	4.0 GB/ 8.0 GB	72	750	900 Oe	QIC-3080/3095 (read/write)

Magneto Optical Disks



Large data volumes – Removable data media

3.5" and 5.25" Magneto Optical Disks (MOD) are always the first choice when large data volumes must be stored on removable data media and rapid random access is required.

EXTRA Magneto Optical Disks are the solution for CAD/CAM, graphic design, image editing, multi-media, electronic publishing, databases, audio editing etc.

Re-writeable as often as you want

The Magneto Optical Disk is an optical storage medium which can be re-written as many times as you want, offering you capacities from 128 MB up to 5.2 GB.

Formatted for DOS/OS2 or Mac

To permit immediate use we offer disks already high level formatted for DOS/OS2 or Mac. They are compatible with all common drives.

Write-Once MODs – complete documentation

Because professional applications – during software development or CAD – require a complete record of every working step, there are also Write-Once MODs which cannot be erased after being recorded, and are thus protected against unintentional or unauthorised alterations.

Magneto Optical Disks exceed the requirements of ISO and ECMA standards.

REWRITEABLE OPTICAL DISKS (90 mm)

TYPE EXTRA	Form factor	Total capacity	Storage surfaces	Bytes per sector
1S/128 MB	3.5"	128 MB	1	512
1S/230 MB	3.5"	230 MB	1	512
1S/540 MB	3.5"	540 MB	1	512
1S/640 MB	3.5"	640 MB	1	2048

Also available formatted and ready to use for MAC and DOS/OS2.

REWRITEABLE-MAGNETO OPTICAL DISKS MO-R/W (130 mm)

TYPE EXTRA	Form factor	Total capacity	Storage surfaces	Bytes per sector
2S/594 MB	5.25"	594 MB	2	512
2S/652 MB	5.25"	652 MB	2	1024
2S/1.2 GB	5.25"	1.2 GB	2	512
2S/1.3 GB	5.25"	1.3 GB	2	1024
2S/2.3 GB	5.25"	2.3 GB	2	512
2S/2.6 GB	5.25"	2.6 GB	2	1024
2S/4.1 GB	5.25"	4.1 GB	2	512
2S/4.8 GB	5.25"	4.8 GB	2	1024
2S/5.2 GB	5.25"	5.2 GB	2	2048

All types are formatted in accordance with the ISO standard. System-specific formatting is performed by the user. On request the products are available formatted ready for use (DOS, MAC, etc.)

WRITE ONCE (CCW) MAGNETO OPTICAL DISKS MO-WO (130 mm)

TYPE EXTRA	Form factor	Total capacity	Storage surfaces	Bytes per sector
2S/1.3 GB	5.25"	1.3 GB	2	1024
2S/2.3 GB	5.25"	2.3 GB	2	512
2S/2.6 GB	5.25"	2.6 GB	2	1024
2S/4.1 GB	5.25"	4.1 GB	2	512
2S/4.8 GB	5.25"	4.8 GB	2	1024
2S/5.2 GB	5.25"	5.2 GB	2	2048

Since these disks can only be written once, formatting must be performed by the user.

BETACAM SP MASTER



BETACAM SP



Maximum reliability and excellent video and audio properties make EMTEC's Betacam SP Master the ideal recording medium for production, ENG/EFP, editing, post production and other broadcast applications in SP format.

Our innovative **SIP Master (Super Impacted Particles) coating technology** using highly concentrated ultra-fine magnetic particles enhances quality of recording and playback even under most demanding climatic conditions and during continuous operation.

The magnetic coated layer is 100% quality controlled using the latest laser scanning technology.

The special matt backing optimizes winding characteristics, avoids electrostatic charging in operation, guarantees lowest dropout rates and maintains high durability even after hundreds of passes.

Our perfect metal particle coating provides a constant RF-level and high signal-to-noise ratio even at the shortest wavelengths as well as extremely low head-wear which make Betacam SP Master a perfect broadcast tape.

The anti-static durable precision ABS plastic shell with the red lid is dust- and shock-resistant and promotes the instant identification of Betacam SP Master.



BETACAM SP MASTER			
Product Range	Type	Lengths (m./ft.)	Recording Time (min. PAL/NTSC)
Small	5 M	42/138	6/6
	10 M	78/256	12/11
	20 M	150/492	24/21
	30 M	222/728	36/31
Large	30 ML	243/797	39/34
	60 ML	457/1499	75/64
	90 ML	670/2198	110/94

Physical Properties

Item	Unit	Typical Value
Tape Thickness		
- Base Film	µm	10.7
- Magnetic Layer	µm	3.0
- Backcoating	µm	0.8
- Total	µm	14.5
Tape Width	mm	12.65

Magnetic Properties

Item	Unit	Typical Value
Coercivity (Hc)	kA/m	120 (1,500 Oe)
Retentivity (Br)	mT	250 (3,700 G)
Squareness (Br/Bm)	%	85

Video and Audio Performance*

Item	Unit	Typical Value
RF Output	dB	+ 1.0
Video S/N	dB	+ 0.5
Dropouts	DO/min.	< 3
Still frame	min.	> 180
Signal wear (after 100 passes)	dB	< 1.5
Sensitivity at 1 kHz	dB	+/- 0.0
Frequency response (1 kHz/15 kHz)	dB	<= + 1.0

*Compared with RSB01 reference tape.

DIGITAL BETACAM MASTER



Digital BETACAM

EMTEC's Digital Betacam Master format features digital high density component recording on 1/2" metal videocassette tape. It is the state-of-the-art recording medium for Studio production, ENG/EFM, editing, post-production, transmission and archiving applications.

Ultra-fine metal particles with a coercivity of 125 kA/m and a highly polished tape in a durable, dust- and shock-resistant precision ABS plastic shell with an anti-static lid optimize high output, tape durability and long-term reliability.



The special matt backing ensures improved tape winding characteristics, avoids static build-up and reduces drop-out rates.

DIGITAL BETACAM MASTER			
Product Range	Type	Lengths (m./ft.)	Recording Time (min. PAL/NTSC)
Small	D6	43/141	6
	D12	78/256	12
	D22	136/446	22
	D32	195/640	32
	D40	241/791	40
Large	D34L	206/676	34
	D64L	382/1253	64
	D94L	557/1827	94
	D124L	732/2402	124

Physical Properties

Item	Unit	Typical Value
Tape Thickness		
- Base Film	µm	10.0
- Magnetic Layer	µm	3.0
- Backcoating	µm	0.8
- Total	µm	13.8
Tape Width	mm	12.65
Yield strength	N	25
Breaking strength	N	49

Magnetic Properties

Item	Unit	Typical Value
Coercivity (Hc)	kA/m	127
Retentivity (Br)	mT	260
Squareness (Br/Bm)	%	84

Video and Audio Performance*

Item	Unit	Typical Value
RF Output	dB	+/- 0
Video C/N	dB	+/- 0
Sensitivity at 1 kHz	dB	+/- 0
Frequency response (1 kHz/15 kHz)	dB	+/- 0
Audio S/N	dB	+/- 0

*Compared to RSB01 reference tape.

VHS BROADCAST MASTER



EMTEC's VHS Broadcast Master offers the highest quality standard for professional work copies in post-production as well as for other broadcast applications.

The **super-high-grade tape** of VHS Broadcast Master ensures excellent picture quality for problem-free recording and constant playback quality even after many passes, **with dropouts less than 5 per minute.**

The **special SIP (Super Impacted Particles) coating technology** using highly concentrated ultra-fine magnetic particles optimizes the recording characteristics across the entire audio and video frequency range.

The anti-static durable ABS plastic shell with the red lid is dust- and shock-resistant and promotes the instant identification of VHS Broadcast Master. The unique sliding erase tab prevents accidental erasure of recordings.

VHS Broadcast Master is available either in the sturdy library case with a special hub locking system ensuring safe transport and archiving or in the **100% recyclable carton sleeve.**

VHS Broadcast Master			
Product Range	Type	Lengths (m./ft.)	Recording Time (min. PAL*)
available either in Carton Sleeve (100% recyclable) or Library Case	E-15	24/79	15
	E-30	45/148	30
	E-60	88/289	60
	E-90	130/426	90
	E-120	173/568	120
	E-180	258/846	180
	E-240	343/1125	240

Physical Properties

Item	Unit	Typical Value E-180/E-240
Tape Thickness		
- Base Film	µm	14.5/11.0
- Magnetic Layer	µm	3.5/3.5
- Backcoating	µm	0.5/0.5
- Total	µm	18.5/15.0
Tape Width	mm	12.65
Yield strength	N	22/18

Magnetic Properties

Item	Unit	Typical Value
Coercivity (Hc)	kA/m	52
Retentivity (Br)	mT	135
Squareness (Br/Bm)	%	84

Video and Audio Performance**

Item	Unit	Typical Value
Video S/N	dB	4.0
Colour S/N	dB	3.0
Dropouts	DO/min.	< 4
Still frame	min.	> 60
Sensitivity at 1 kHz	dB	+/- 0
Frequency response (9 kHz/1kHz)	dB	2.0
Hifi Output (FM 1.8 MHz)	dB	+/- 0

* also available in NTSC (see www.emtec-usa.com)

**Compared to VRT2 reference tape.

S-VHS BROADCAST MASTER



EMTEC's S-VHS Broadcast Master meets professional requirements and offers excellent picture quality, reliability and durability, making it the ideal medium for professional master-tape recording.

An outstanding signal-to-noise-ratio and chrominance-noise, as well as lowest drop out rates and minimized video modulation noise provide high quality video performance in S-VHS format.

The special SIP (Super Impacted Particles) coating technology using highly concentrated ultra-fine magnetic particles optimizes the recording characteristics across the entire audio and video frequency range.

The anti-static durable ABS plastic shell with the red lid is dust- and shock-resistant and promotes the instant identification of S-VHS Broadcast Master. The unique sliding erase tab prevents accidental erasure of recordings.

S-VHS Broadcast Master is available either in the sturdy library case with a special hub locking system ensuring safe transport and archiving or in the **100% recyclable carton sleeve**.

S-VHS Broadcast Master			
Product Range	Type	Lengths (m./ft.)	Recording Time (min. PAL*)
available either in Carton Sleeve (100% recyclable) or Library Case	SE-15	24/79	15
	SE-30	45/148	30
	SE-60	88/289	60
	SE-120	173/568	120
	SE-180	258/846	180
	SE-240	343/1125	240

Physical Properties

Item	Unit	Typical Value SE-180/SE-240
Tape Thickness		
- Base Film	µm	14.5/11.0
- Magnetic Layer	µm	3.5/3.5
- Backcoating	µm	0.5/0.5
- Total	µm	18.5/15.0
Tape Width	mm	12.65
Yield Strength	N	22/18

Magnetic Properties

Item	Unit	Typical Value
Coercivity (Hc)	kA/m	70
Retentivity (Br)	mT	190
Squareness (Br/Bm)	%	90

Video and Audio Performance**

Item	Unit	Typical Value
Video S/N	dB	1.0
Colour S/N	dB	0.5
Dropouts	DO/min.	< 4
Still frame	min.	> 60
Sensitivity at 1 kHz	dB	+/- 0
Frequency response (9 kHz/1kHz)	dB	1.0
Hifi Output (FM 1.8 MHz)	dB	+/- 0

* also available in NTSC (see www.emtec.usa.com)

** Compared to SRT1 reference tape.

STUDIO MASTER 900 maxima



Studio Master 900 maxima is a modern, high output analogue magnetic tape, particularly suitable for multitrack recording. Characteristic of this tape is the wide dynamic range and its low noise and excellent print-through value.

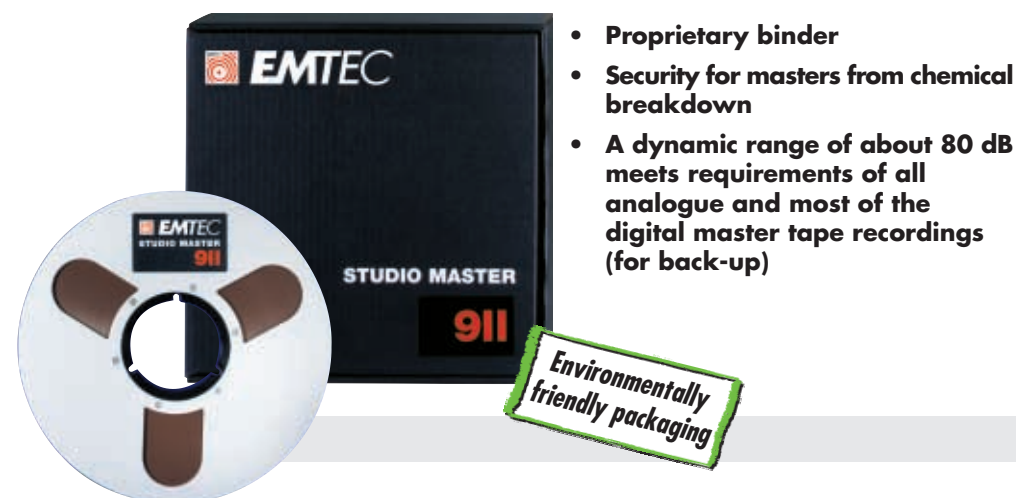
- **3 dB higher output level**
- **2 dB lower noise level**
- **The improved modulation noise is beneficial to the stereo mix-down**

STUDIO MASTER 900 maxima

Dimensions

6.3 mm	366 m	Spool, 18 cm
6.3 mm	762 m	NAB-core
6.3 mm	762 m	NAB-spool 26.5 cm
12.7 mm	762 m	NAB-spool 26.5 cm
12.7 mm	1,524 m	NAB-spool 35.5 cm
25.4 mm	762 m	NAB-spool 26.5 cm
50.8 mm	762 m	NAB-spool 26.5 cm
50.8 mm	1,524 m	NAB-spool 35.5 cm

STUDIO MASTER 911



This proven analogue studio tape is particularly suitable for multi-track recordings, with their particular demands on mechanical

reliability. Reliable in all stages from mastering to post-production to archiving.

STUDIO MASTER 911

Dimensions

6.3 mm	180 m	Spool, 13 cm
6.3 mm	360 m	Spool, 18 cm
6.3 mm	762 m	AEG-core
6.3 mm	762 m	NAB-core
6.3 mm	762 m	NAB-spool 26.5 cm
6.3 mm	1,000 m	AEG-core
6.3 mm	1,143 m	NAB-spool 31.75 cm
12.7 mm	762 m	NAB-core
12.7 mm	762 m	NAB-spool 26.5 cm
12.7 mm	1,143 m	NAB-spool 31.75 cm
12.7 mm	1,524 m	NAB-spool 35.5 cm
25.4 mm	762 m	NAB-spool 26.5 cm
50.8 mm	762 m	NAB-spool 26.5 cm
50.8 mm	1,524 m	NAB-spool 35.5 cm

STUDIO MASTER 468



This studio master tape, introduced to the market in 1973, is particularly suitable for multi-track recordings. Its success story of over 20 years in use is proof of the tape's reliability. Recordings made on SM 468 more than 20 years ago can be played back without loss of quality.

- **Printed on the back coating indicates definitive proof of manufacture and also acts as orientation in editing**
- **Extremely low print-through**

STUDIO MASTER 468

Dimensions

6.3 mm	190 m	Spool, 13 cm
6.3 mm	381 m	Spool, 18 cm
6.3 mm	762 m	AEG-core
6.3 mm	762 m	NAB-core
6.3 mm	762 m	NAB-spool 26.5 cm
6.3 mm	1,000 m	AEG-core
12.7 mm	762 m	NAB-core
12.7 mm	762 m	NAB-spool 26.5 cm
25.4 mm	762 m	NAB-spool 26.5 cm
50.8 mm	762 m	NAB-spool 26.5 cm
50.8 mm	1,524 m	NAB-spool 35.5 cm

DIGITAL MASTER 931



This digital studio tape is eminently suitable for all recording formats: PD, DASH and Nagra-D. The magnetic coating, consisting of ultrafine magnetic particles in a special binder on a thin base, receives a mirror smooth finish which provides Digital Master 931 with a high mechanical robustness, giving it the ability to stand up to tough studio operating conditions.

- **High mechanical robustness gives high signal stability**
- **Precision metal reels afford precise tape operation and effective protection of tape edges**
- **Each reel has a protective collar**

DIGITAL MASTER 931

Dimensions

6.3 mm	366 m	Spool, 13 cm
6.3 mm	732 m	Spool, 18 cm
12.7 mm	1,524 m	NAB-precision spool 26.5 cm
12.7 mm	2,286 m	NAB-precision spool 31.75 cm
12.7 mm	3,048 m	NAB-precision spool 35.5 cm
25.4 mm	1,524 m	NAB-precision spool 26.5 cm
25.4 mm	2,286 m	NAB-precision spool 31.75 cm
25.4 mm	3,048 m	NAB-precision spool 35.5 cm

Loop Master 526

Analogue loop-bin master for high-speed duplication

Tested and proven loop-bin master tape for high-speed duplication with an especially wear-resistant iron-oxide magnetic coating.

- **Excellent mechanical running properties**
- **High signal stability even after many thousands of passes**

Audio Broadcast PER 528

European standard broadcast and reporting tape

PER 528 broadcast tape is in accordance with the German IRT specification requirements. First-class electro-acoustical and mechanical characteristics: low print-through, high operational safety when working with tapes on hub.

- **White matt backing for winding on hub**
- **Matt back for editing marks**
- **Very low print-through**
- **Ideal for both music and voice recording**

Audio Broadcast Long Play Tape PER 368

European standard broadcast and reporting tape

The long playing version of PER 528 for recording on portable equipment. 50% longer playing time compared with standard broadcast tapes on spools of the same diameter.

- **For studio and field operations**
- **Outstanding winding characteristics**
- **Very low print-through**
- **Matt back for editing marks**

LPR 35

Semi-professional or domestic tape

Professional long-playing tape for studio or field reporting. For both music or voice recording. Very low print-through and good winding characteristics. Especially suitable for slow recording speeds (3 ³/₄ and 7 ¹/₂ ips).

DP 26/TP 18

Semi-professional or domestic tape

Thin film-based tapes for long playing times. Extremely supple, giving excellent head-to-tape contact. Also suitable for slow recording speeds.

Voice Master 950/952/953

Voice logging tapes

These tapes, developed for extended recording times on equipment with slow running speeds, benefit from the use of a long-standing, proven formulation that provides high uniformity and consistency. Proven coating construction for greatest reliability. Durable under non-stop operating conditions.

Voice Master 950

Especially conceived for slow speed recording of speech. For use on portable machines. Non-back-coated tape. Thickness: 24 µm.

Voice Master 952

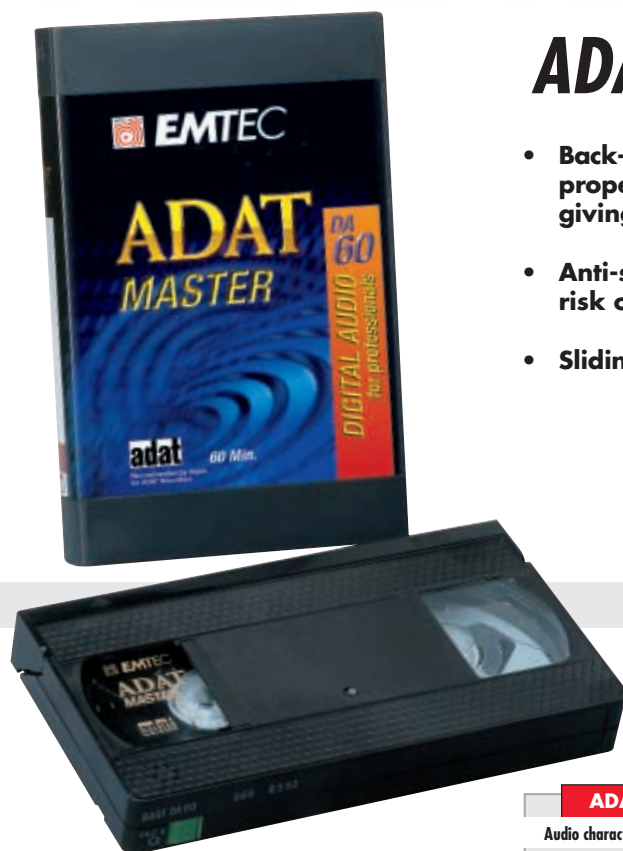
Universally compatible voice logging tape, offering low noise and good dynamic characteristics making it ideal for speech recording and voice mastering at 3 ³/₄ ips. With back-coating. Thickness: 27 µm.

Voice Master 953

Electro-acoustically identical with Voice Master 952, but thinner based for longer playing times on same size reels. With back-coating. Thickness: 17.5 µm

Configurations

Configurations available on request. Please supply details of recorder, tape speed, tape width, length, type and size of winder and any other relevant details about leaders and packaging.



ADAT MASTER

- Back-coating for excellent running properties and high reliability giving reduced BLER
- Anti-static shell and lid reduce risk of contamination of tape
- Sliding erase-lock tab

Also available formatted.



The back-coated tape has been specially selected for digital audio application. It has an exceptionally low BLER (Block Error Rate). The shell is made of impact resistant ABS plastic. The sturdy library cases ensure safe transportation and problem-free archiving. Extra large index cards are provided for takes and tracks. APRS/SPARS labels are included.

ADAT MASTER		
Audio characteristics	Typical (BASF):	
Frequency response	20 - 20000 Hz	
Dynamic range	> 90 dB per canal	
Block error rate	0.7 per million	
Number of interpolations possible	0.1 per hour	
Uncorrectable errors (mute)	0	
Average signal level (cf. internal average)	- 0.5 dB	
Physical properties		
Base film material	Polyester	
Tape width	12.65 mm	
Tape width variations	0.006 mm	
Translucency	< 0.1%	
	DA 40	DA 60
Total tape thickness	18.7 µm	14.5 µm
Base film thickness	15.2 µm	10.7 µm
Coating thickness	3.0 µm	3.0 µm
Back coating thickness	0.8 µm	0.8 µm
Tape length	270 m	400 m
Breaking load	40 N	30 N
Playing time	40 minutes	60 minutes



DTRS MASTER

- Excellent short-wavelength resolution
- Prolonged head-life
- Specially formulated back-coated tape for the rigours of editing

Also available formatted.



DTRS MASTER			
Audio characteristics	Typical (BASF):		
Frequency response	20 - 20000 Hz		
Dynamic range	> 90 dB per canal		
Block error rate	1.5 per million		
Number of interpolations possible	0.3 per hour		
Uncorrectable errors (mute)	0		
Average signal level (cf. internal average)	0 dB		
Physical properties			
Base film material	Polyester		
Tape width	8.00 mm		
Tape width variations	0.006 mm		
Translucency	< 0.1%		
	DA 30 MP	DA 60 MP	DA 113 MP
Total tape thickness	13 µm	13 µm	10.5 µm
Base film thickness	10.5 µm	10.5 µm	7 µm
Coating thickness	2.5 µm	2.5 µm	2.5 µm
Back coating thickness	1 µm	1 µm	1 µm
Tape length	31.5 m	61 m	111 m
Breaking load	25 N	25 N	20 N
Playing time	30 minutes	60 minutes	113 minutes

The DTRS Master was designed for the DTRS format of digital audio recording. It contains specially formulated metal powder tape. The supersmooth surface prolongs head-life resulting in superior recording quality.

High-impact ABS plastic was used for optimum protection of the tape with its high data density. The anti-static lid reduces contamination of the tape. The DTRS Master also contains APRS/SPARS labels for clear reference to contents.

CD-R MASTER CERAMIC PLATED



Exclusive
to
EMTEC

A CD-R for Audio

Suitable for all write speeds, even 16x, to enable the professional audio user to record music in real time (1x) as well as being able to use higher speeds (e.g 4x) for fast duplication.

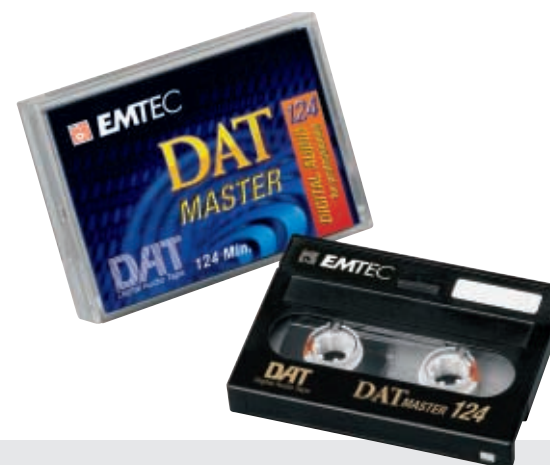
Data Seal

The hardened white ceramic layer together with the transparent protective layer provides effective protection of the reflective layer and below that the recording layer with its recorded information.

Reflective coating

The innovative silver reflective coating is optimally adjusted to the recording speed and provides better reflectivity values than previous types.

DAT MASTER



- Extremely low error correction, even after 500 passes
- Functions without problems even under tough operating conditions
- Shock resistant hub-lock mechanism

DAT MASTER

Physical properties

Tape length specified in	IEC 60A (CO) 130
Tape base material	Polyester
Tape width	3.81 mm
Tape width variations	< 6 µm
Static longitudinal curvature	< 5 mm per m
Total tape thickness (nominal)	13.0 µ
Magnetic coating	2.5 µm
Back coating	0.5 µm
Base film	10.0 µm
Yield strength F 1%	
longitudinal direction	≥ 1.4 N
transverse direction	≥ 0.7 N

Playing time in minutes 15 | 34 | 49 | 64 | 94 | 124

The precision coating of ultra-fine metal powder has a particularly high packing density. The super polished tape surface with minimal roughness guarantees lowest error rates. The heavy duty precision shell is ideal for transport and archiving purposes.

Reference II MASTER



- 3 component azimuth stabiliser – over 95 °C
- Extremely low modulation noise
- Brilliant and clean sound
- Short lengths, ideal for demo tapes

REFERENCE II MASTER						
Physical properties						
Total thickness (C-90)		12.5 μm				
Magnetic coating thickness		5.1 μm				
Tape width		3.81 mm				
Magnetic properties						
Coercivity field strength		56.5 kA/m				
Saturation retentivity		0.18 Ts				
Electro-acoustic properties						
Sensitivity 315 Hz		+/- 0		dBr		
Frequency response at 3.15 kHz		+ 0.5		dBr		
Frequency response at 10 kHz		+ 1.5		dBr		
Frequency response at 14 kHz		+ 2.0		dBr		
Maximum output level, MOL 315 Hz		+ 5.0		dB ₂₅₀		
Saturation output level, SOL 10 kHz		- 5.0		dB ₂₅₀		
MOL to noise at 315 Hz		63.5 dB				
Signal to noise ratio 10 kHz		53.5 dB				
Print through (C-60)		53.5 dB				
Playing time in minutes		10	20	30	60	90 100

The tape coating utilizes extremely fine, high performance cobalt doped separate high bias ferric oxide needles. These give outstanding recording levels for high frequencies.

The special mirror smooth back-coating helps reduce modulation noise level thus enhancing the recording's clarity.

Product Overview Professional Media

DATA MEDIA

Magnetic Tape Cartridges 3480

EXTRA 210	210 MB
EXTRA 250	250 MB
EXTRA 300	300 MB
MAXIMA 210	210 MB
MAXIMA 250	250 MB
MTC Cleaning Cartridge	

Magnetic Tape Cartridges 3490 E

EXTRA DL	800 MB
EXTRA DLX	850 MB
EXTRA XL	1.0 GB
MAXIMA DL	800 MB
MTC Cleaning Cartridge	

Magnetic Tape Cartridges 3590

MTC High Performance	10/20 GB
MTC Extended High Performance	20/40 GB
MTC RedLead SD-3 10	10/25/50 GB
MTC Cleaning Cartridge	

LTO Ultrium Cartridges

Ultrium 10	10 GB
Ultrium 30	30 GB
Ultrium 50	50 GB
Ultrium 100	100 GB
Ultrium Cleaning Cartridge	

DLTapes™

DLTapes™ III	2.6/6/10 GB
DLTapes™ III XT	15 GB
DLTapes™ IV	20/35 GB
DLT™ Cleaning Cartridge	

Computertapes

24 E	2400ft/730m
24 W	2400ft/730m

Further configurations available on request

Magneto Optical Disks

Rewritable	
3.5" 1S/128	128 MB
3.5" 1S/230	230 MB
3.5" 1S/540	540 MB
3.5" 1S/640	640 MB
5.25" 2S/594	594 MB
5.25" 2S/652	652 MB
5.25" 2S/1.2	1.2 GB

Rewritable und Write Once

5.25" 2S/1.3	1.3 GB
5.25" 2S/2.3	2.3 GB
5.25" 2S/2.6	2.6 GB
5.25" 2S/4.1	4.1 GB
5.25" 2S/4.8	4.8 GB
5.25" 2S/5.2	5.2 GB

4/8 mm Data Cartridges

4D - 60m	1.3 GB
4D - 90m	2 GB
4D - 120m	4 GB
4D - 125m	12 GB
4D - 150m	20 GB
8D - 112m	2.3/5 GB
8D - 160m	7 GB
4D / 8D Cleaning Cartridges	

QIC Data Cartridges

TR 1 QIC 80	400 MB
TR 3 QIC 3020	1.6 GB
TR 4 QIC 3095	4.0 GB

VIDEO STUDIO

Betacam SP Master

Small (MS)	5/10/20/30 Min
Large (ML)	30/60/90 Min

Digital Betacam Master

Small (DS)	6/12/22/32/40 Min
Large (DL)	34/64/94/124 Min

VHS Broadcast Master

	15/30/60/90/120/180/240 Min
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S-VHS Broadcast Master

	15/30/60/120/180/240 Min
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AUDIO STUDIO

Studio Master 900 Maxima	
Studio Master 911	
Studio Master 468	
Digital Master 931	
Loop Master 526	
Audio Broadcast PER 528	
Audio Broadcast Long Play PER 368	
LPR 35	
DP 26/TP 18	

Voice Master 950	
Voice Master 952	
Voice Master 953	

ADAT Master	40/60 Min
DTRS Master	30/60/113 Min
CD-R Master Ceramic Plated	74 Min
DAT Master	15/34/49/64/94/124 Min
REFERENCE II Master	10/20/30/60/90/100 Min