

OUTLINE

This specification provides a description for the TEAC FT-3020 micro streamer: Mini Data Cartridge Unit (hereinafter, referred to as the MTU). The MTU is available with four different colors of front bezel.

Model	FT-3020-501	
TEAC Part number	19305145-01	
Front bezel color	Light gray	
Indicator LED color	Green	
Form factor	3.5-inch (height: 1 inch)	
Safety standards	UL 1950 CSA No.950 TÜV EN60950	
Tape used (mini data cartridge)	Uses the mini data cartridge specified in QIC-143. (Refer to item 3 for the details) Ref. 1. Coercivity : 9000e (72,000A/m) 2. Width : 0.247 ±0.0005in (6.27 ±0.013mm) 3. Length : 400ft (121.9m)	
Recording format	QIC-3020-MC/QIC-3010-MC	
Readable format	QIC-3020-MC/QIC-3010-MC/QIC-80-MC	
Recording density	QIC-3020-MC	44,250ftpi
	QIC-3010-MC	22,125ftpi
Data density	QIC-3020-MC	44,250bpi
	QIC-3010-MC	22,125bpi
Formatted data capacity	QIC-3020-MC	Approx. 680MB (approx. 1,360MB when data is compressed by a factor of 50%)
	QIC-3010-MC	Approx. 346MB (approx. 692MB when data is compressed by a factor of 50%)
Power supplies	+5V DC, +12V DC	
Interface	In compliance with QIC-117 (alias FDD interface)	
Drive select setting	SOFTWARE PHANTOM SELECT 0 at factory-preset	
Terminator	1kΩ (fixed)	

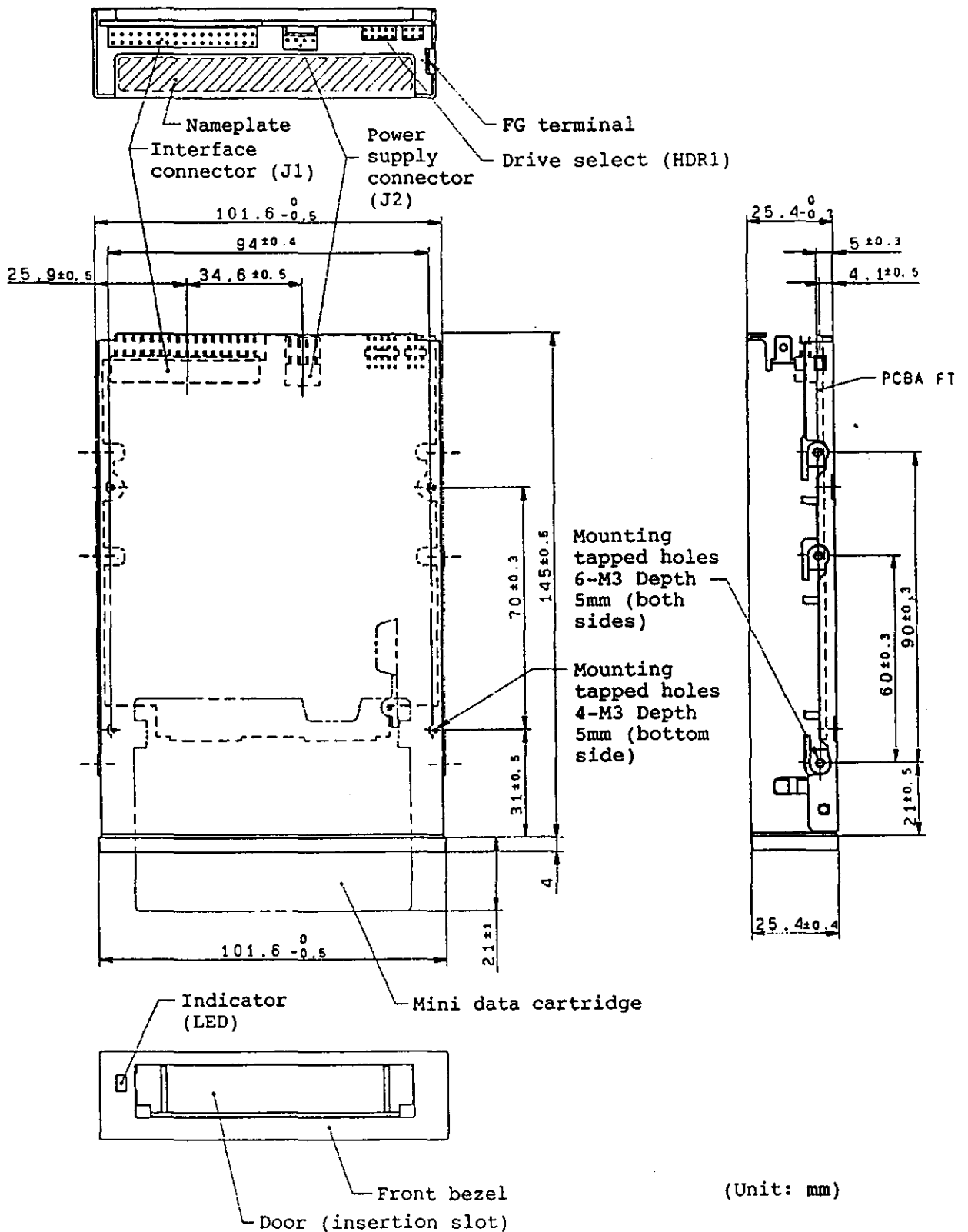
(Table 1) General specifications

CONSTRUCTION

External Construction

- (1) Height : 25.4mm (1.00 in), Nom.
- (2) Width : 101.6mm (4.00 in), Max.
- (3) Depth : 145.0mm (5.71 in), Nom.
- (4) Weight : Approx. 420g (Approx. 0.93 lbs)
- (5) Direction of installation : as described below.
 - (a) The cartridge may be inserted horizontally from the front. However, the orientation with the indicator positioned on the right side is not permitted.
 - (b) The cartridge may be inserted vertically from the front.
 - (c) In case of (a) and (b), the front side can be tilted to upward or down-ward maximum 15 degrees.
- (6) Mounting method : The drive is mounted with screws through the mounting holes at the sides and bottom. Refer to Fig.1 for the positions of the mounting holes.

Note: When mounting the drive with screws, use a tightening torque of 4kg·cm (55.5oz·in) or less.
- (7) Color of front bezel : Refer to Table 1.
- (8) Indicator LED color : Refer to Table 1.
- (9) External view : Refer to Fig.1.



(Fig.1) MTU external view

ENVIRONMENTAL CONDITIONS

Items		Conditions
Ambient temperature	In operation	5-45°C (41-113°F)
	During storage or transportation	-22-60°C (-8-140°F)
Temperature gradient	In operation	6°C (10.8°F) or less per hour(non-condensing)
	During storage or transportation	30°C (54°F) or less per hour(non-condensing)
Relative humidity	In operation	20-80% (non-condensing) Maximum wet-bulb temperature: 26°C (79°F)
	During storage	10-90% (non-condensing) Maximum wet-bulb temperature: 40°C (104°F)
	During transportation	10-90% (non-condensing) Maximum wet-bulb temperature: 45°C (113°F)
Vibration	In operation	1G or less (10-100Hz, sweeps at 1oct/min.) 0.5G or less (100-600Hz, sweeps at 1oct/min.)
	Non-operating, During transportation	1.5G or less (10-100Hz, sweeps at 1/4oct/min.)
Shocks	In operation	5G (sine half-wave 11msec) or less
	One shock at non-operating, One shock during transportation	70G (sine half-wave 11msec) or less
Transportation conditions		The general rule level I of the appropriate package goods test method in JIS-Z0200 should be satisfied when specified packing case is used. When a long period (48 hours or more) is required for transportation such as by ship, storage environmental conditions should be applied.

(Table 2) Environmental conditions

RELIABILITY OF DATA AND DRIVE

- (1) Soft error : 1 or less per 1×10^7 bits read
- (2) Unrecoverable error : 1 or less per 1×10^{14} bits read
- (3) Mean Time to Repair (MTTR) : 20 min. or less
- (4) Mean Time Between Failures
(MTBF) at duty cycle 10% : 119,000POH or more

RECORDING CHARACTERISTICS

- (1) Recording format : In compliance with QIC-3020-MC and QIC-3010-MC
- (2) Number of tracks (on tape) : 40
- (3) Encoding system : MFM
- (4) Recording form : Single track serpentine recording
- (5) Recording density : 44,250ftpi for QIC-3020-MC
22,125ftpi for QIC-3010-MC
- (6) Data density : 44,250bpi for QIC-3020-MC
22,125bpi for QIC-3010-MC
- (7) ECC : Reed Solomon (3-order)
- (8) Data capacity per tape (at full write) : Approx. 680MB for QIC-3020-MC
Approx. 346MB for QIC-3010-MC
- (9) Data capacity per track : Approx. 17.0MB for QIC-3020-MC
Approx. 8.67MB for QIC-3010-MC
- (10) Number of segments per track : 572 for QIC-3020-MC
292 for QIC-3010-MC
- (11) Number of sectors per segment : Data 29, ECC 3
- (12) Number of data per sector : 1,024 bytes

Notes: 1. Data capacity when fully written is approx. 680MB for QIC-3020-MC MODE, but approx. 1,360MB with a data compression factor of 50%.

2. Data capacity is under the following conditions.

- (a) Speed tolerance : $\pm 0\%$
- (b) Number of defect (on tape) : 0

TAPE USED (MINI DATA CARTRIDGE)

Mini data cartridge specified in QIC-143 should be used.

TEAC recommends the following tapes, which have been confirmed suitable for use with the MTU.

- (1) Preformatted tape for QIC-3020-MC
3M : MC3000XL TAUMAT (400ft)
- (2) Preformatted tape for QIC-3010-MC
3M : MC3000XL PIMAT (400ft)
- (3) Unformatted tape
3M : MC3000XL (400ft)

Note: If the above tapes are difficult to obtain, the following tape may also be used although its data capacity is a little smaller.

- (a) Unformatted tape
3M : MC3000 (300ft)
- (b) Preformatted tape : not commercially available

STANDARDS OF RECORDING FORMAT AND INTERFACE

This MTU complies with the following standards in order to be compatible with the recording format and interface.

- (1) QIC-3020-MC
SERIAL RECORDED MAGNETIC TAPE MINICARTRIDGE FOR INFORMATION INTERCHANGE
- (2) QIC-3010-MC
SERIAL RECORDED MAGNETIC TAPE MINICARTRIDGE FOR INFORMATION INTERCHANGE
- (3) QIC-117
COMMON COMMAND SET INTERFACE SPECIFICATION FOR FLEXIBLE DISK CONTROLLER
BASED MINICARTRIDGE TAPE DRIVES
- (4) QIC-113
HOST INTERCHANGE FORMAT