

PRASAR BHARTI
BROADCASTING CORPORATION OF INDIA
DIRECTORATE GENERAL: DOORDARSHAN

Specifications for High Quality Character Generator

Specifications No.: SD 13/2010

Dated: 14.06.2010



1. SCOPE:

The specifications lay down the performance characteristics of a broadcast quality multilingual Character Generator (CG) to be used in Studio/OB applications in Doordarshan network.

2. GENERAL:

2.1 **The offered equipment should be from an internationally reputed manufacturer and the quoted model should be field proven and in use by leading broadcasters. The bidder should essentially submit the list of the broadcasters to whom the quoted model has been supplied. The tenders without the proper user list shall liable to be rejected out rightly.**

The bidder may also be asked to provide the quantity and the year of supply of the offered equipment to the broadcasters at a short notice, if required.

2.2 The Character generator is required for the generation of graphics, animations, 2 D & 3 D title captions etc. with different colour background.

2.3 The character generator should be capable of generating titles in English, Hindi and any one of the Indian regional languages such as Urdu, Kashmiri, Sindhi, Punjabi (Gurumukhi), Gujarati, Marathi, Oriya, Bengali, Assamese, Tamil, Telugu, Malayalam, Kannada, Sanskrit etc. in each CG system. The offered product should support all **C-DAC** fonts for Indian languages. The details of regional language to be provided in each CG system is as detailed in **Appendix-I**.

2.4 It should be possible to Genlock the character generator so that it can be mixed, dissolved, cut and keyed in the production switcher.

2.5 The bill of material is given in **Appendix-II**.

2.6 The equipment are being procured for various Doordarshan centres as per **Appendix-IV**.

3. ESSENTIAL FEATURES:

The offered character generator should have following features as mentioned below:

- 3.1 The character generator should be based upon user friendly drag and drop graphical user interface and should be easy to use in live environment.
- 3.2 It should be possible to create single line as well as multi-line text on a single page. It should also be possible to create multiple pages in a document.
- 3.3 It should be possible to create multiple layers in a page.
- 3.4 It should have multiple simultaneous crawls in both the directions, rolls, and tickers.
- 3.5 It should support various graphics file formats such as TGA, JPEG, BMP, TIFF etc., animation and video file formats.
- 3.6 It should have analogue as well digital clocks with variable size and positions. It should also have count up & count down time display.
- 3.7 The CG should have animation effects for text and logos including cut and paste tools. The application should facilitate key frame based animation.
- 3.8 The CG should facilitate wipes and effects to page transition as well as texts. It should be possible to provide some basic animation to these effects.
- 3.9 It should have various character attributes like normal, bold, italic, underline, borders, shadows, highlight, reverse video, expand, compress, tilt, rotate, transparencies etc. It should be possible to change attributes character by character. Scaling of text lines should be changeable in both horizontal and vertical directions to fit long sentences.
- 3.10 It should have video safe area marking facility.
- 3.11 The system should have real time video & still frame grab facility and should also have a media store.
- 3.12 The character generator should have anti-aliased fonts.
- 3.13 A font library consisting of at least 1000 fonts is to be included in the system.
- 3.14 It should be equipped with spell checker facility for English, Hindi and other Indian regional languages.
- 3.15 It should be possible to edit the text of the on air page without disturbing the Program (PGM) output until it is executed. It should also be possible to edit on a page while the other page is on air.
- 3.16 It should have RS-232/ RS 422 interface, Gigabit Ethernet and spare USB ports.

- 3.17 The firm should offer broadcast quality latest generation Video I/O card supporting SD-SDI video with 10 bit processing. **The make and model of the offered I/O card should be explicitly specified and the technical specifications and literature are to be submitted alongwith the bid.**
- 3.18 GPU card installed should be appropriate to the application software running on the system so that full utility of the CG/Graphic software is realized.
- 3.19 The system should support easy creation of customized templates.
- 3.20 System should provide functional support to access data directly from third party database, text files, spread sheets and should have provision to display and generate line/ bar graph and pie charts etc.
- 3.21 **System should provide separate SDI preview output independent of the main program SDI output.**
- 3.22 System should provide a separate key out for both the Program & Preview outputs.
- 3.23 System should also have genlock input.
- 3.24 System should support 2D/3D DVE effects for live applications.

4. TECHNICAL SPECIFICATIONS:

4.1 I/O Card:

Sr. No.	Description	Parameter
(I)	Video Input	
(a)	Number of Input	: One or more conforming to SMPTE 259M, SD-SDI 270 Mbps, with 800mV, 75 Ω, BNC
(b)	Video Resolution	: 720X576 for 625/50i
(II)	Video Output	
(a)	Number of outputs	: 2 Fill and 2 Key (one each for Program & Preview Outputs) conforming to SMPTE 259M, SD-SDI 270 Mbps, with 800mV, 75 Ω, BNC
(b)	Video Resolution	: 720X576 for 625/50i
(III)	Genlock Reference input	: Black burst or SDI, 75 Ω, BNC

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- (IV) Colour and styles : 16.7 million colour palette, 256 levels of transparency
- (V) Power supply : 230±5% V AC, 50 Hz

4.2 **Hardware Configuration:**

The minimum hardware configuration of the envisaged system is as below. However, the bidder can offer a superior hardware configuration if required by the system & application software to ensure full performance of the offered product. The bidder must enclose a certificate from the GPU/IO card hardware vender as well as application software vender that the offered hardware configuration will ensure full performance of all the features available in the offered software.

Sr. Nos.	Description	Parameter
(a)	Processor	: Similar to Intel Core 2 Duo/Intel Quad core with 2.6 GHz or better
(b)	Cache memory	: 2MB or better
(c)	Keyboard	: Standard PS2 or USB
(d)	Mouse	: Optical 3 button with scroll wheel
(e)	Memory	: 4 GB, DDR-2 800MHz or better
(f)	System Hard Disk	: 160 GB SATA (7,200 rpm) or better
(g)	Separate Media Storage	: 160 GB SATA (7,200 rpm) or better
(h)	Optical drive	: DVD R/W or better
(i)	Network controller	: Integrated 10/100/1000 LAN
(j)	GPU	: Recommended Graphics card to support full feature of the installed software of the offered system
(k)	I/O interfaces	: 1 x Serial port, 4 x USB ports, 2x RJ45 ports
(l)	Speaker	: A pair of Good Quality speaker

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- (m) **Monitor** 19" viewable, TFT active matrix LCD with protective shield, Resolution 1280x1024 or better, 16.7 million colors or better, Brightness 250 cd/m² typical or better, Contrast Ratio 500: 1 typical or better, Viewing Angle Horizontal & Vertical 160° each
- (n) **Power Requirement** : 230±5% V AC, 50 Hz

5. SOFTWARE:

All the necessary software required for proper working of the system is to be supplied in original and should be licensed to Doordarshan with perpetual validity.

6. COMPLIANCE:

- (a) Any substandard equipment included in the offer may cause the rejection of complete offer with the sole responsibility of bidder.
- (b) The firm should provide the offered un-priced bill of material in electronic form also in addition to the hard copy for ease of technical evaluation.
- (c) **A point-by-point compliance statement from the principal manufacturer in respect of all the points laid down in these specifications is to be enclosed along with the offer in the format given below. Mere signature on the copy of the specifications shall not be accepted as a compliance statement.**

The figures so mentioned should be supported by record of these in the technical literature enclosed with the tender and reference to the page number of enclosed literature for all features and technical specifications should be mentioned in the relevant column. Offers without the compliance statement or with incomplete compliance statement will liable to be rejected with the sole responsibility of the bidder. Any deviation from the specification detailed in the compliance statement is to be highlighted separately.



Sr. No of DD specs.	DD specs.	Compliance (Yes/No)	Performance Fig. of equipment Offered.	Reference to the Page Number of enclosed literature	Deviations, in case of non-compliance	Optional items if any reqd. to make the sys. Compliant to DD specs.	Features in the offered Product which exceeds DD specs.

7. ACCESSORIES:

All the essential accessories, such as various types of connectors, power adopters, power cords etc. are required to be quoted essentially. The firm has to ensure the completeness of the offer. All the Optional items may be quoted separately. The firm must provide enough details about optional items to decide its utility.

8. DOCUMENTATION:

One set of printed technical and operation & maintenance manuals for all the equipments are to be provided on non-returnable basis along with the tender to facilitate the technical evaluation, otherwise the tender is liable to be ignored. The successful bidder will have to supply one set of printed operation, service and maintenance manuals with respect to the equipment.

9. TRAINING:

The firm should also offer **05** days comprehensive operation and maintenance training on the offered equipment for Doordarshan Engineers. The training will be arranged at the locations given under **Appendix -III**.

10. GUARANTEE:

- (a) The system should be guaranteed for two years of trouble free operation from the date of supply. In case of any equipment failure including software and hardware within this period, the same shall be rectified or replaced free of cost to Doordarshan.
- (b) The guarantee should cover all hardware, software and modules of the complete system.

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11. DEMONSTRATION:

If necessary, the firm may be asked for demonstration of the offered system as part of the technical evaluation. In such case the firm will have to make suitable arrangement for the demonstration of the offered system at Doordarshan Bhawan, New Delhi, on notice of 7 days. Accordingly the firm should be in readiness for demonstration on a notice of 7 days.

12. INSPECTION:

The equipment shall be subjected to inspection by Doordarshan officials at New Delhi.

13. ENCLOSURES:

The bidder must necessarily submit the following enclosures along with the technical bid:

- (a) Compliance statement with respect to all the points of the specifications duly signed by the OEM.

The reference to the page number of enclosed literature for all features and technical specifications should be essentially mentioned in the relevant column of the compliance statement.

- (b) Technical manuals/Detailed technical literature/catalogues for all the offered products for substantiating the model no. and technical specifications.
- (c) **Model specific broadcast user list of the offered product.**
- (d) Any other document mentioned elsewhere in the tender document.

The tender is liable to be rejected in the absence of the above enclosures with the sole responsibility of the bidder.



**DETAILS OF FONTS FOR THE VARIOUS LANGUAGES TO BE PROVIDED
AT VARIOUS DOORDARSHAN CENTRES**

Sl. No.	Zone	Location of Doordarshan Centre	Fonts of the various languages to be provided
1.	North Zone (NZ)	Jammu	Hindi, English, Urdu, Kashmiri
2.		Chandigarh	Hindi, English, Punjabi (Gurumukhi)
3.		Bareilly	Hindi, English, Urdu
4.		Shimla	Hindi, English, Urdu
5.		Allahabad	Hindi, English, Urdu
6.		Mau	Hindi, English, Urdu
7.	East Zone (EZ)	Daltonganj	Hindi, English, Urdu
8.		Mujjafarpur	Hindi, English, Urdu
9.		Ranchi	Hindi, English, Urdu
10.		PPC Guwahati	Hindi, English, Assamese
11.		Siliguri	Hindi, English, Bengali
12.		shillong	Hindi, English, Assamese
13.		Tura	Hindi, English, Assamese
14.		Kohima	Hindi, English, Assamese
15.		Itanagar	Hindi, English, Assamese, Bengali
16.		Imphal	Hindi, English, Bengali
17.		Silchar	Hindi, English, Assamese, Bengali
18.		Dibrughar	Hindi, English, Assamese
19.		Aizwal	Hindi, English, Assamese
20.		Agartala	Hindi, English, Bengali
21.	Sambalpur	Hindi, English, Oriya	
22.	Gangtok	Hindi, English, Bengali	
23.	South Zone (SZ)	Gulbarga	Hindi, English, Kannada
24.		Pondicherry	Hindi, English, Tamil
25.		Vijayavada	Hindi, English, Telugu
26.		Portblair	Hindi, English, Urdu
27.	West Zone (WZ)	Panaji	Hindi, English, Urdu
28.		Raipur	Hindi, English, Urdu
29.		Rajkot	Hindi, English, Gujarati
30.		Pune	Hindi, English, Marathi
31.		Indore	Hindi, English, Urdu

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BILL OF MATERIAL

Sl. Nos.	Details of Items	Quantity
1.	Character Generator System complete with all hardware and software modules including Indian Regional language fonts as detailed in Annexure-I	62 Sets
2.	CD /DVD versions of all pre loaded and pre-installed Software pertaining to complete functionality of the offered system	62 Sets
3.	Associated cables and accessories	62 Sets
4.	Operation manual/User Guide/ Technical Manual/ Installation Manual etc.	62 sets
5.	Service & Maintenance Manuals	62 sets
6.	05 days comprehensive operation and maintenance training on the offered equipment for Doordarshan personnel as detailed in Appendix-III .	4 Jobs

Appendix-III

The training will be conducted at four locations, one each in North Zone, South Zone, East Zone and West Zone. The exact locations in the respective zone will be intimated at the time of finalising the training schedule.



**EQUIPMENT ARE BEING PROCURED FOR THE FOLLOWING
DOORDARSHAN CENTRES**

Sl. No.	Zone	Location of Doordarshan Centre	Qty.
1.	North Zone (NZ)	Jammu	2 sets
2.		Chandigarh	2 sets
3.		Bareilly	2 sets
4.		Shimla	2 sets
5.		Allahabad	2 sets
6.		Mau	2 sets
7.	East Zone (EZ)	Daltonganj	2 sets
8.		Mujjafarpur	2 sets
9.		Ranchi	2 sets
10.		PPC Guwahati	2 sets
11.		Siliguri	2 sets
12.		shillong	2 sets
13.		Tura	2 sets
14.		Kohima	2 sets
15.		Itanagar	2 sets
16.		Imphal	2 sets
17.		Silchar	2 sets
18.		Dibrughar	2 sets
19.		Aizwal	2 sets
20.		Agartala	2 sets
21.	Sambalpur	2 sets	
22.	Gangtok	2 sets	
23.	South Zone (SZ)	Gulbarga	2 sets
24.		Pondicherry	2 sets
25.		Vijayavada	2 sets
26.		Portblair	2 sets
27.	West Zone (WZ)	Panaji	2 sets
28.		Raipur	2 sets
29.		Rajkot	2 sets
30.		Pune	2 sets
31.		Indore	2 sets
TOTAL			62 sets

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